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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,294	03/12/2004	William H. Velke		5190

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CANADA

EXAMINER

CLARKE, SARA SACHIE

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 02/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/798,294	Applicant(s) VELKE, WILLIAM H.	
	Examiner Sara Clarke	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 23-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of species II (combustion turbine) in the reply filed on November 24, 2004, is acknowledged.

### ***Information Disclosure Statement***

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the insulating material forming part of the heat exchanger assemblies and the heat storage material being formed as part of the heat exchanger assemblies (claims 24 and 35) and the heat transfer zones being operated from a source other than the combustion or exhaust gas vent area of the combustion mechanism (claims 27 and 38) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

The disclosure is objected to because of the following informalities: On page 1, line 5 from the bottom, "power" is spelled wrong. On page 4, line 2, "affective" should be "effective." Appropriate correction is required.

#### ***Claim Objections***

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

The original claims were numbered 1-20, 23, and 24. Claims 23 and 24 have been renumbered as claims 21 and 22. Moreover, in the claims submitted November 24, 2004, the claim between claims 29 and 30 was numbered 68. Accordingly,

misnumbered **claims 25-29, 68, and 30-44 from the amendment filed November 24, 2004, have been renumbered 23-43.**

Claims 23-43 are objected to because of the following informalities: In claims 23 and 34, line 2, should "effecting" instead be "affecting." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 23-43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. See MPEP 2163.06.

The original disclosure does not provide support for an optimal air operating temperature level of between plus 50 and minus 25 degrees Fahrenheit (claims 23 and 34), the range of at least one of said heat transfer zones being related to the exhaust gas vent area of the combustion mechanism (claims 25 and 36), the range of at least one of said heat transfer zones being related to the combustion area of the combustion mechanism (claims 26 and 37), said heat transfer zones being operated from a source other than the combustion or exhaust gas vent area of the combustion mechanism (claims 27 and 38), a single or dual cycle turbine system (claim 29), the fuel being a suspended coal dust or a coal dust slurry (claim 32), an insulating material being used

to balance any temperature fluctuations occurring in the heat transfer zones (claim 35), and a means for the combustion mechanism to convert an oxidation mixture of fuel and air into high temperature, high velocity combustion products to operate a related turbine system (claim 41).

With regard to claims 27 and 38, independent claims 23 and 34 from which they depend, require that the first heat transfer zone be related to the combustion mechanism. Claims 27 and 38 require the heat transfer zones to operate from a source other than the combustion or exhaust gas area of the combustion mechanism. The original disclosure does not provide support for a heat transfer zone related to the combustion mechanism but not the combustion or exhaust gas area of the combustion mechanism.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 23 and 34, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See lines 4 and 6. See MPEP § 2173.05(d).

Regarding claims 23 and 34, the phrase "or the like" renders the claims indefinite because the claims include elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claims unascertainable. See lines 4 and 5.

See MPEP § 2173.05(d).

In claim 41, it is unclear what structure in the specification provides the function of converting an oxidation mixture of fuel and air into high temperature, high velocity combustion products to operate a related turbine system.

### ***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 23-28, 31-40, 42, and 43 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 27-32, 36-45,46, and 47 of copending Application No. 10/798,294. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Since claims 23-28, 31-40, 42, and 43 of the present application and claims 27-32, 36-45,46, and 47 application 10/798292 are drawn to the "same invention," the prohibition of double patenting rejections under 35 U.S.C. 121 does not apply. See MPEP 804.01, example F.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23, 25, 28, 30, 31, 33, 34, 36, 39-41, and 43 are rejected under 35

U.S.C. 102(b) as being anticipated by Arenson (US 3720057).

Arenson discloses the invention as claimed including a first heat exchanger extending assembly 116 through a first heat transfer zone related to the combustion mechanism and a second heat exchanger assembly 126 extending through a second heat transfer zone of said combustion mechanism. Example 2 shows that natural gas leaves heat exchanger 11 at a temperature of 168° F and that air leaves heat exchanger 126 at a temperature of 40° F. These specific examples of temperatures fall within the claimed ranges.

With regard to claim 41, in order for the gas turbine engine of Arenson to operate, there is necessarily some means for converting the oxidation mixture of fuel and air into high temperature, high velocity combustion products.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 26, 27, 35, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arenson (US 3720057) in view of Velke (US 5888060).

Arenson discloses the invention substantially as claimed with the exception of an



insulating or heat storage material forming part of the heat exchanger assemblies and one of the heat transfer zones being related to the combustion area of the combustion mechanism.

Velke discloses a device for preheating liquid fuel to decrease its density and thus increase efficiency and is thus analogous prior art. Velke teaches the use of a heat storage material forming part of the heat exchanger assembly (see col. 4, lines 18-23) for the purpose of equalize heat transfer from the heating zone to the heat exchanger during on/off cycles of the appliance. Velke also teaches the use of insulating material 21 in the heat exchanger shown in Fig. 4 for the purpose of protecting against external heat loss. Velke also teaches the use of the transfer zone being operated from a source other than the combustion or exhaust gas vent area of the combustion mechanism in the case that access to such heat source locations is difficult. See col. 4, lines 16-18. Velke further teaches the use of a heat transfer zone being related to the combustion area of the combustion mechanism for the purpose of increasing the efficiency of the appliance. See the abstract.

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide the device of Arenson with the heat storage material or the insulating material as taught by Velke to equalize heat transfer from the heating zone to the heat exchanger during on/off cycles of the appliance or to protect against external heat loss. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide the device of Arenson with the transfer zone being operated from a source other than the combustion or exhaust gas vent area of the combustion mechanism as taught by Velke in the case that access to such heat source

locations is difficult. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to provide the device of Arenson with the heat transfer zone being related to the combustion area of the combustion mechanism as taught by Velke for the purpose of increasing the efficiency of the appliance.

### ***Allowable Subject Matter***

Claims 29, 32, and 42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arenson (US 3552134) discloses LNG vaporization and air cooling.

### ***Contact Information***


Any inquiry concerning this or earlier communications from the examiner should be directed to Sara Clarke whose phone number is 571-272-4873. The examiner normally can be reached Mon-Fri, 8:30-1:00.

If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Ira Lazarus, can be reached at 571-272-4877. The fax number for the organization where this application is assigned is 703-872-9306.

Status information for an application is available from the Patent Application Information Retrieval (PAIR) system. Status information for published applications is available from Private or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR, see <http://pair->

direct.uspto.gov. For questions on access to Private PAIR, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Sara Clarke   
Primary Examiner  
Art Unit 3749

February 6, 2005